



Third West Weekly Report

Shepherd, Michael

to:

Joyce Ackerman, 'Craig Barnitz (cbarnitz@utah.gov)'

02/01/2012 03:32 PM

Hide Details

From: "Shepherd, Michael" <Michael.Shepherd@PacifiCorp.com>

To: Joyce Ackerman/R8/USEPA/US@EPA, "'Craig Barnitz (cbarnitz@utah.gov)'"
<cbarnitz@utah.gov>

1241183 - R8 SDMS

History: This message has been replied to.

7 Attachments



Weekly Report 01-23 to 01-27-12.pdf Third West Weekly Log 2011-04.pdf 228373-1.pdf 228454-1.pdf



228518-1.pdf 228612-1.pdf 228714-1.pdf

Joyce & Craig,

Attached are the reports for the week of January 23, 2012.

All air monitoring results came back negative, except the positive hits of chrysotile on Thursday and Friday last week.

I should have an incident report to you by the end of the week.

Please let me know if you have any questions.

Thanks,

Mike Shepherd
Project Manager
Rocky Mountain Power - Major Projects
801.220.4584 Office
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801.220.2797 Fax
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3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

DATE: 01/23/11

General

- NA Work area Health and Safety Inspection
- NA Review and if necessary update Activity Hazard Analyses (AHA) based on planned site activities for the day
- NA Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
- NA Site hazard and safety instruction for all first time employees, contractors or visitors
- NA Complete Employee Meeting Record Form B (where applicable)
- NA Document required Respirator Training completion with Form H
- NA Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
- NA Confirm return of waste material manifest documents for each load with site manager.
- NA Complete all CSHASP Forms (for applicable activities planned for that day)
 - NA Illness/Injury Report Form A
 - NA Site-Specific Training Record Form C
 - NA Hot Work Permit Form D
 - NA Trench/Evacuation Permit Form E
 - NA Combined Space Entry Permit Form F
 - ☒ Exclusion zone operations are practiced as instructed.
 - ☒ Decontamination unit is working properly.
 - ☒ Workers are using decontamination unit as instructed.
 - ☒ Workers use personal protective equipment properly.
 - ☒ Set air samples at cardinal compass points around exclusion zone. Check throughout the day to ensure proper operation.
Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
 - ☒ Review sign-in/sign-out log throughout and at the end of the workday.
 - ☒ Secure the site at the end of the workday

Sampling

- NA Soil Confirmation sampling for any newly excavated areas
- ☒ Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusion zone
- NA Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
- NA Digitally photograph each sample location and at any place field sampling personnel determined necessary

- ☒ Electronically file photo files into the on-site database
- ☒ Complete Field Documentation
 - ☒ Field Sample Data Sheets (FSDS)
 - ☒ Logbook
 - ☒ On-site computer database
- ☒ Label each sample media with a unique number
- ☒ Seal sample(s) in zip lock plastic bags
- ☒ Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
- ☒ Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
- ☒ Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
- ☒ Electronically file sample reports into on-site database



3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station

Date: 01/23/12

Location: 3rd West, 1st South, SLC

Job Number: _____

Survey Conducted By: Justin Kargis

Title: _____

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			x	
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	x			

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
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1926.451 (a) (4)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			x	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			x	
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a 1/2 fire resistance barrier.			x	

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
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1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			X	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.	x			
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			x	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
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1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.	x			
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			x	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

Comments:

Exclusion zone active and observed once earth work began.

High winds has blown EZ fencing down over the weekend. Newman immediately proceeded to reset all fencing and were suited up while working on it.

Newman backfilled the switchgear building throughout the day. They also excavated an area adjacent to the east fence in the north arm of the yard for the 46 kV vaults.

Soil was very wet due to precipitation.

CVE line crew was working in the energized section of the yard.

3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

DATE: 01/24/11

General

NA Work area Health and Safety Inspection

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- NA Soil Confirmation sampling for any newly excavated areas
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- ☒ Electronically file photo files into the on-site database
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3rd West Substation Site Project Safety Audit

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Date: 01/24/12

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Job Number: _____

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Title: _____

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1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

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1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			x	
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1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
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1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	
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1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
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1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.	x			
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Comments:

Exclusion zone active and observed once earth work began.

Newman worked with Old Castle precast to place a vault in the north arm of the yard near the gate. The While the EZ was closed off, the vault hole excavation exposed native soil which the workers had to work around. The Old Castle worker had to operate the boom in the vicinity of the hole. This was discussed between R&R and RMP prior to placing the vault.

Newman continued earthwork for 46kV vaults. This excavation between the control building and the fence in the north arm of the yard sloughed and created a hole outside the yard boundary.

CVE and Newman used temporary fencing and barricades to section off this area to prevent people from falling in the gap between the fence and parking lot asphalt.

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Date: 01/25/12

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1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.	x			
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			x	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

Comments:

Exclusion zone active and observed once earthwork began.

3 Miller and 1 Newman truck washed out before 9:00. Circuit breakers were delivered and two were placed on pads on both sides of the decon unit.

CVE civil crew poured east 1/3 section of the switchgear floor.

3 Miller trucks and 1 Newman truck washed out during the afternoon.

EZ protocols continue to be followed at an acceptable level.

The owner of Artistic Printing came to take photos of the corner of their building that was exposed for placement of the vault in the north arm of the yard. He expressed concerns about foundation cracking and structure strain resulting from removal of fill near the northeast corner of the building.

3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

DATE: 01/26/11

General

NA Work area Health and Safety Inspection

- NA Review and if necessary update Activity Hazard Analyses (AHA) based on planned site activities for the day
- NA Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
- NA Site hazard and safety instruction for all first time employees, contractors or visitors
- NA Complete Employee Meeting Record Form B (where applicable)
- NA Document required Respirator Training completion with Form H
- NA Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
- NA Confirm return of waste material manifest documents for each load with site manager.
- NA Complete all CSHASP Forms (for applicable activities planned for that day)
 - NA Illness/Injury Report Form A
 - NA Site-Specific Training Record Form C
 - NA Hot Work Permit Form D
 - NA Trench/Evacuation Permit Form E
 - NA Combined Space Entry Permit Form F
 - ☒ Exclusion zone operations are practiced as instructed.
 - ☒ Decontamination unit is working properly.
 - ☒ Workers are using decontamination unit as instructed.
 - ☒ Workers use personal protective equipment properly.
 - ☒ Set air samples at cardinal compass points around exclusion zone. Check throughout the day to ensure proper operation.
Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
 - ☒ Review sign-in/sign-out log throughout and at the end of the workday.
 - ☒ Secure the site at the end of the workday

Sampling

- NA Soil Confirmation sampling for any newly excavated areas
- ☒ Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusion zone
- NA Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
- NA Digitally photograph each sample location and at any place field sampling personnel determined necessary

- ☒ Electronically file photo files into the on-site database
- ☒ Complete Field Documentation
 - ☒ Field Sample Data Sheets (FSDS)
 - ☒ Logbook
 - ☒ On-site computer database
- ☒ Label each sample media with a unique number
- ☒ Seal sample(s) in zip lock plastic bags
- ☒ Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
- ☒ Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
- ☒ Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
- ☒ Electronically file sample reports into on-site database



3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station

Date: 01/26/12

Location: 3rd West, 1st South, SLC

Job Number: _____

Survey Conducted By: Justin Kargis

Title: _____

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			x	
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	x			

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.451 (a) (4)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			x	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			x	
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a 1/2 fire resistance barrier.			x	

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			X	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.	x			
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			x	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
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1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.	x			
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			x	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

Comments:

Exclusion zone active and observed once earthwork began.

10 dump truck loads were washed out throughout the day.

Work around the vault near the north gate required tasks near exposed native soil. The exclusion zone was altered to allow for entry into this area and CVE workers did not suit up to work in this location.

CVE civil crew poured flowable fill and used to plastic sheeting to cover most of the exposed banks of native dirt.

Had a meeting with a structural engineering consultant to address concerns from Artistic Printing owner about possible damage to their building. The consultant indicated that it was ok to move ahead with flowable fill around the vault.

CVE poured west 1/3 of the switchgear foundation.

CVE line crew continued to tear down structural steel and framework in west section of yard.

3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

DATE: 01/27/11

General

- NA Work area Health and Safety Inspection
- NA Review and if necessary update Activity Hazard Analyses (AHA) based on planned site activities for the day
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- NA Site hazard and safety instruction for all first time employees, contractors or visitors
- NA Complete Employee Meeting Record Form B (where applicable)
- NA Document required Respirator Training completion with Form H
- NA Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
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- NA Complete all CSHASP Forms (for applicable activities planned for that day)
- NA Illness/Injury Report Form A
- NA Site-Specific Training Record Form C
- NA Hot Work Permit Form D
- NA Trench/Evacuation Permit Form E
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- NA Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
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 - ☒ Field Sample Data Sheets (FSDS)
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- ☒ Seal sample(s) in zip lock plastic bags
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- ☒ Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
- ☒ Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
- ☒ Electronically file sample reports into on-site database



3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station

Date: 01/27/12

Location: 3rd West, 1st South, SLC

Job Number: _____

Survey Conducted By: Justin Kargis

Title: _____

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			x	
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	x			

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
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1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			x	
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a 1/2 fire resistance barrier.			x	

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			X	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.	x			
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			x	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
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1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.	x			
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			x	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

Comments:

Exclusion zone active and observed once earthwork began.

18 trucks washed out throughout the day. All hauled a mix of concrete and contaminated soil. Newman contracted with Geary construction for use of 4 truck/pup rigs for hauling.

Newman placed shoring equipment in the hole for the 46kV vaults east of the new control building.

More of this hole has sougued out under the parking lot, continuing the need to barricade 4-5 parking spots and fencing off the gap between the asphalt and yard fence. This is an area of concern due to people either falling in the hole or entering the yard through the gap.



PHOTO 1



PHOTO 2

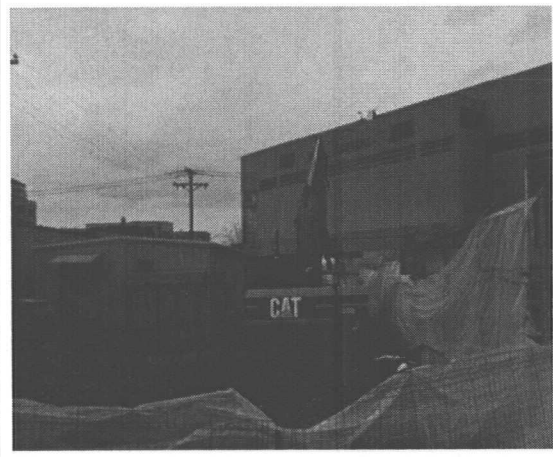


PHOTO 3



PHOTO 4

R & REnvironmental, Inc.

47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:

SCALE:

REVIEWED BY:

DCR

DRAWN BY:

JMK

DATE

01/23/12

FILE:

SITE PHOTOGRAPHS



3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah



PHOTO 1

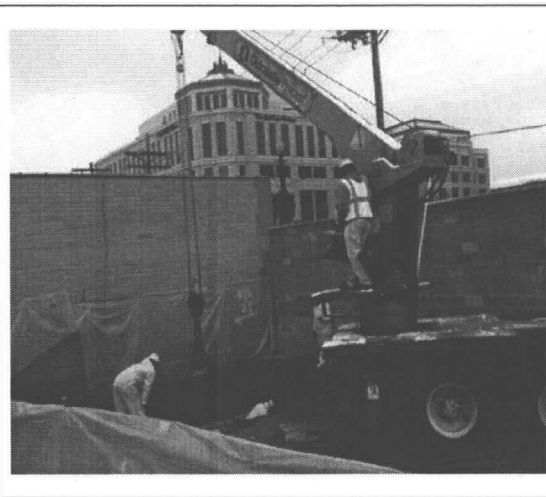


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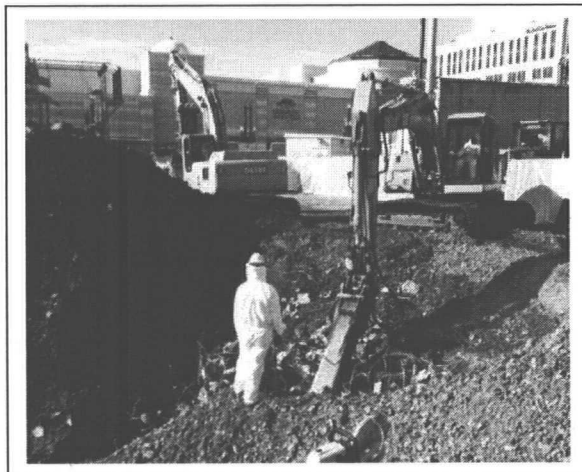


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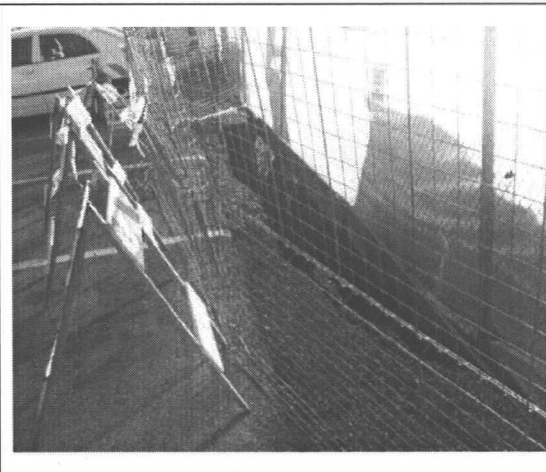


PHOTO 4

R & REnvironmental, Inc.

47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:

SCALE:

REVIEWED BY:

DCR

DRAWN BY:

JMK

DATE

01/24/12

FILE:

SITE PHOTOGRAPHS



3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah



PHOTO 1



PHOTO 2

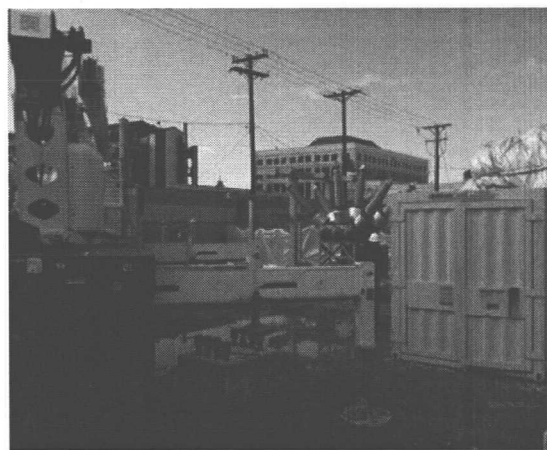


PHOTO 3



PHOTO 4

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PROJECT NO:

DESIGNED BY:

SCALE:

REVIEWED BY:

DCR

DRAWN BY:

JMK

DATE

01/25/12

FILE:

SITE PHOTOGRAPHS



**3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah**



PHOTO 1



PHOTO 2



PHOTO 3

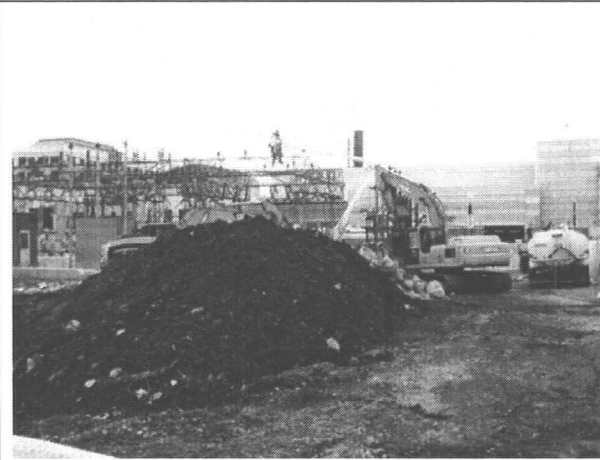


PHOTO 4

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(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:

SCALE:

REVIEWED BY:
DCR

DRAWN BY:
JMK

DATE
01/26/12

FILE:

SITE PHOTOGRAPHS



**3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah**



PHOTO 1

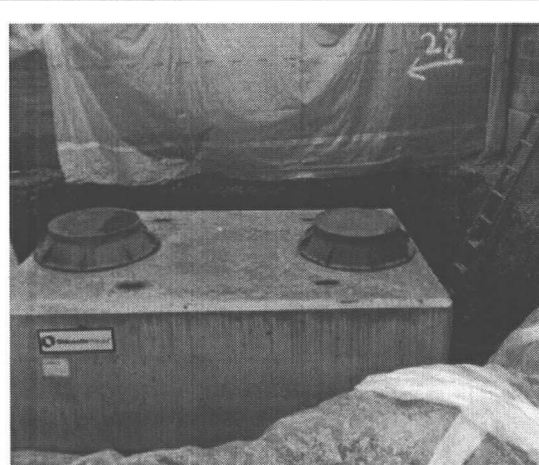


PHOTO 2



PHOTO 3

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JMK

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01/26/12

FILE:

SITE PHOTOGRAPHS



**3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah**

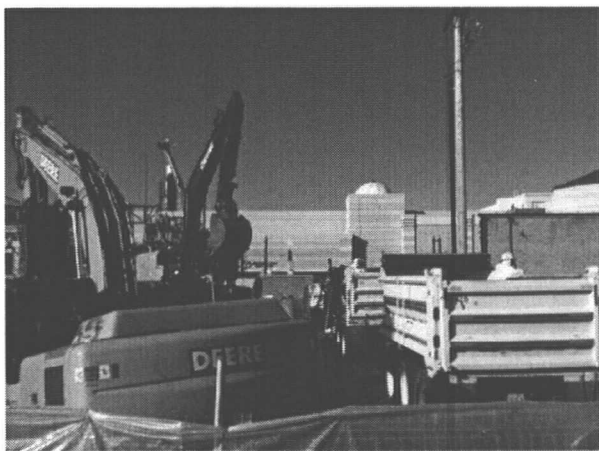


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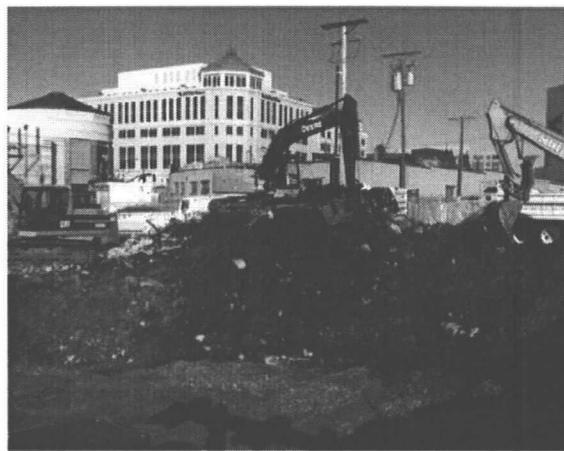


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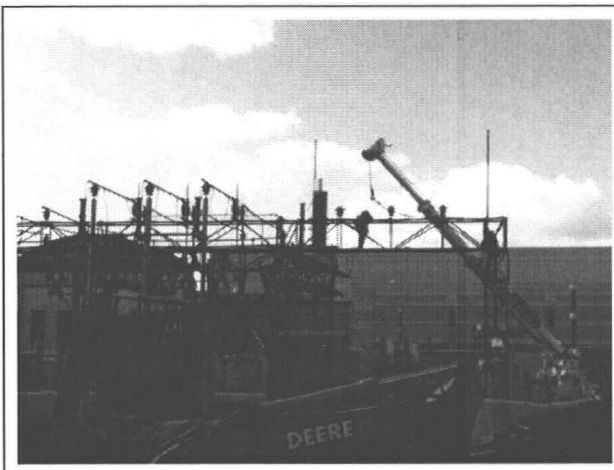


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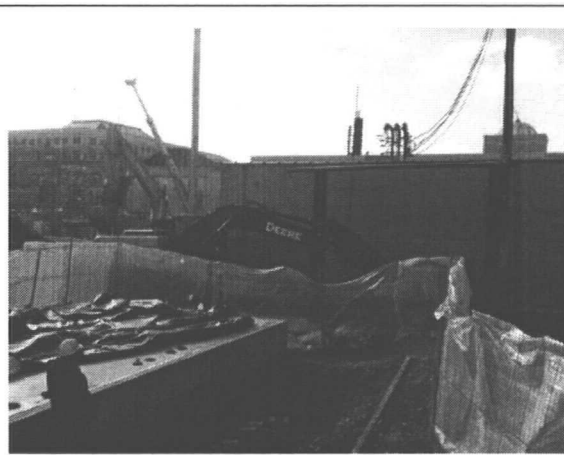


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PROJECT NO:

DESIGNED BY:

SCALE:

REVIEWED BY:
DCR

DRAWN BY:
JMK

DATE
01/27/12

FILE:

SITE PHOTOGRAPHS



3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild

DATE: Monday, January 23, 2012

PO & Work Order NO.: 3000078050 / 10035803

MAIN CONTRACTOR: Cache Valley Electric

Crew Start Time: 7:00

Crew Stop Time: 17:00 Tot Hrs mns: 10:00

FCR Start Time: 6:50

FCR Stop Time: 17:10 Tot Hrs mns: 10:20

Use military time format 00:00

WEATHER CONDITIONS: Partly Cloudy - 35 degrees in AM, Snow and 32 degrees in PM

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set up four monitors. The wind took down some of the fence around the EZ. Newman spent time reconstructing the EZ fence. Newman backfilled the switchgear foundation and the north side of the switchgear, over the top of the FTB poured on Friday. Newman also completed exposing the 46 kV cables and the CVE electrical crew cut, phased, and marked the cables. The CVE line crew grounded the 46 kV cables at the breaker positions. The CVE fab crew grouted the switchgear foundation, placed rebar in the west section of the floor, and propped the embed anchors for the floor slabs. CVE Fab Crew = 7, Newman = 10, R&R = 1, Widing = 1.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time: Barry Nielson 0650

Dispatcher logout, name and time: Ken Barto 1710

DISCREPANCIES:

IMMEDIATE CORRECTIVE ACTION TAKEN:

11/30 - Identified an additional retaining wall that is below grade and does not show on the Demo Plan.	Will excavate to determine dimensions.
12/14 - Communications battery rack extends into the northeast doorway. Capital Electric indicates that they were told to proceed with the install by Barry Andersor	Sent email and pictures to Roger F to confirm that this conflict is acceptable to RMP. Under evaluation by Comm Group
12/15 - Excavated to locate the 46 kV cables exiting the west side of the yard. Dug 8' and didn't find them. Will try again. Actual depth will be much deeper than design of new bank	Sent e-mail to Roger F.

DELAYS OR LOST TIME ENCOUNTERED:

--

EQUIPMENT (working, delivered, idle):

CVE fab crew: Portable toilet (2), forklift, 1 dumpster, office trailer, conex, exclusion zone conex (2), tool trailer, crew truck, boom truck. Newman: portable wash-down structure, trachoe, bobcat, mini-ex, power washer, water truck, compactor (2), backhoe.

OSHA Recordable Safety Incidents:

Reported by:

Time:

--	--	--



Russ Johnson
Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild

DATE: Tuesday, January 24, 2011

PO & Work Order NO.: 3000078050 / 10035803

MAIN CONTRACTOR: Cache Valley Electric

Crew Start Time: 7:00

Crew Stop Time: 16:30

Tot Hrs mns: 9:30

FCR Start Time: 6:45

FCR Stop Time: 16:55

Tot Hrs mns: 10:10

Use military time format 00:00

WEATHER CONDITIONS: Partly Cloudy- 25 degrees in AM, 40 degrees in the PM

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set up four monitors. Bill Benson, the owner of the Artistic Printing building requested permission to take a picture of our excavation for Vault #1. I allowed him to do so. His concern was that he wanted some documentation of the excavation in case there is some issue that surfaces in the future from the excavation activity next to his building. Newman completed the work on the excavation for Vault #1 and Old Castle delivered and placed Vault #1. Newman excavated around the 46 kV vault in the EZ, in preparation for removing it. CVE line crew cut the 46 kV cables at the termination structures. CVE fab crew placed the rebar and expansion material for the switchgear floor and is planning on pouring it on Wednesday, 1/25, and covered the foundation with visqueen to prevent moisture from accumulating. The east wall of the excavation for the 46 kV vaults has sloughed off under the east fence. CVE installed a temporary fence and barricades on the parking lot side of the substation fence to keep people away from the excavation and/or from entering the substation. CVE Line Crew = 5, CVE Fab Crew = 5, Newman = 9, R&R = 1, Wilding = 1.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time: Jim Bowman 0645

Dispatcher logout, name and time: Ken Barto 1655

DISCREPANCIES:

IMMEDIATE CORRECTIVE ACTION TAKEN:

11/30 - Identified an additional retaining wall that is below grade and does not show on the Demo Plan.	Will excavate to determine dimensions.
12/14 - Communications battery rack extends into the northeast doorway. Capital Electric indicates that they were told to proceed with the install by Barry Anderson	Sent email and pictures to Roger F to confirm that this conflict is acceptable to RMP. Under evaluation by Comm Group
12/15 - Excavated to locate the 46 kV cables exiting the west side of the yard. Dug 8' and didn't find them. Will try again. Actual depth will be much deeper than design of new bank	Sent e-mail to Roger F.

DELAYS OR LOST TIME ENCOUNTERED:

--

EQUIPMENT (working, delivered, idle):

CVE fab crew: Portable toilet (2), fbrkliff, 1 dumpster, office trailer, conex, exclusion zone conex (2), tool trailer, crew truck, boom truck. Newman: portable wash-down structure, trachoe, bobcat, mini-ex, power washer, water truck, compactor (2), backhoe.

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OSHA Recordable Safety Incidents:

Reported by:

Time:



Russ Johnson
Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild

DATE: Wednesday, January 25, 2012

PO & Work Order NO.: 3000078050 / 10035803

MAIN CONTRACTOR: Cache Valley Electric

Crew Start Time: 7:00

Crew Stop Time: 17:05

Tot Hrs mns: 10:05

FCR Start Time: 6:50

FCR Stop Time: 17:55

Tot Hrs mns: 11:05

Use military time format 00:00

WEATHER CONDITIONS: Partly Cloudy, 32 degrees in AM, 40 degrees in the PM

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set up four monitors. Newman loaded out 8 trucks for a total of 116. Newman cleaned up the area south of the new control building and started excavating the additional foot of material in the main excavation area inside the EZ. Newman broke up concrete on the north end of the 4 kV switchgear. CVE line crew worked in the west yard cutting up cable and cleaning up. They also unloaded two HVB CB's at the site (CB 144 - S/N H145A21053-201 / SAP# 388080 and CB 132 - S/N H145A21053-204 / SAP# 388083) and set three CCVT's (B & C phases on the Gadsby line and C phase on Transformer #1). CVE fab crew completed placement of embeds for the switchgear building, poured 15 cyds for the east switchgear floor, and started tying rebar for the 46 kV vault floors. CVE Line Crew = 5, CVE Fab Crew = 7, Newman = 8, Miller = 3, R&R = 1, Wilding = 1.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time: Manny Luhaun 0650

Dispatcher logout, name and time: Ken Barto 1755

DISCREPANCIES:

IMMEDIATE CORRECTIVE ACTION TAKEN:

11/30 - Identified an additional retaining wall that is below grade and does not show on the Demo Plan.	Will excavate to determine dimensions.
12/14 - Communications battery rack extends into the northeast doorway. Capital Electric indicates that they were told to proceed with the install by Barry Andersor	Sent email and pictures to Roger F to confirm that this conflict is acceptable to RMP. Under evaluation by Comm Group
12/15 - Excavated to locate the 46 kV cables exiting the west side of the yard. Dug 8' and didn't find them. Will try again. Actual depth will be much deeper than design of new bank	Sent e-mail to Roger F.

DELAYS OR LOST TIME ENCOUNTERED:

--

EQUIPMENT (working, delivered, idle):

CVE fab crew: Portable toilet (2), forklift, 1 dumpster, office trailer, conex, exclusion zone conex (2), tool trailer, crew truck, boom truck. Newman: portable wash-down structure, trachoe, bobcat, mini-ex, power washer, water truck, compactor (2), backhoe.

OSHA Recordable Safety Incidents:

Reported by:

Time:

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Russ Johnson
Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild

DATE: Thursday, January 26, 2012

PO & Work Order NO.: 3000078050 / 10035803

MAIN CONTRACTOR: Cache Valley Electric

Crew Start Time: 7:00

Crew Stop Time: 15:30

Tot Hrs mns: 8:30

FCR Start Time: 6:43

FCR Stop Time: 16:20

Tot Hrs mns: 9:37

Use military time format 00:00

WEATHER CONDITIONS: Sunny, 35 degrees in AM, Rain, 38 degrees in PM

DESCRIPTION: (work performed, general comments, Instructions to contractor, # of crew members onsite.)

R&R set up four monitors. Newman loaded out 10 trucks for a total of 126. Newman continued removing the extra foot of material and placed a first lift of ABC over the south 60% of the excavation, which passed a 90% compaction test, authorized by John Mancini. CVE line crew started taking down the insulators, switches, and jumpers in the 46 kV yard. CVE fab crew completed propping the west end floor, rebar and embeds, and poured 14 cyds of concrete. Concrete was tented to protect the floor from the rain, which started about 14:30. CVE also poured 20 cyds of flow fill on the west side of Vault #1. I met with Mike Shepherd, John Mancini, an RMP Risk Management rep and an engineer from an outside consulting firm to review potential issues effecting the printing building adjacent to the Vault #1 excavation. CVE Line Crew = 5, CVE Fab Crew = 6, Newman = 7, Miller = 5, R&R = 1, Wilding = 1.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time: Jim Bowman 0643

Dispatcher logout, name and time: Ken Barto 1620

DISCREPANCIES:

IMMEDIATE CORRECTIVE ACTION TAKEN:

11/30 - Identified an additional retaining wall that is below grade and does not show on the Demo Plan.	Will excavate to determine dimensions.
12/14 - Communications battery rack extends into the northeast doorway. Capital Electric indicates that they were told to proceed with the install by Barry Andersor	Sent email and pictures to Roger F to confirm that this conflict is acceptable to RMP. Under evaluation by Comm Group
12/15 - Excavated to locate the 46 kV cables exiting the west side of the yard. Dug 8' and didn't find them. Will try again. Actual depth will be much deeper than design of new bank	Sent e-mail to Roger F.

DELAYS OR LOST TIME ENCOUNTERED:

--

EQUIPMENT (working, delivered, idle):

CVE fab crew: Portable toilet (2), forklift, 1 dumpster, office trailer, conex, exclusion zone conex (2), tool trailer, crew truck, boom truck. Newman: portable wash-down structure, trachoe, bobcat, mini-ex, power washer, water truck, compactor (2), backhoe.

OSHA Recordable Safety Incidents:

Reported by:

Time:



Russ Johnson
Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild

DATE : Friday, January 28, 2011

PO & Work Order NO. : 3000078050 / 10035803

MAIN CONTRACTOR : Cache Valley Electric

Crew Start Time: 7:00

Crew Stop Time: 16:15 Tot Hrs mns: 9:15

FCR Start Time: 6:46

FCR Stop Time: 16:30 Tot Hrs mns: 9:44

Use military time format 00:00

WEATHER CONDITIONS: Partly Cloudy, 30 degrees in AM, Sunny and 40 degrees in the PM

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set up four monitors. CVE line crew continues to dismantle jumpers, insulators, switches, and structural steel in the west 46 kV yard. CVE electrical crew is mounting panels in the new control building. CVE fab crew prepped the center floor area for the switchgear, caulked expansion joints, and cut off the conduits that penetrated the east and west floor sections. Newman loaded out 18 trucks for a total of 144. Newman positioned a trench box in the excavation for the 46 kV vaults. CVE Line Crew = 5, CVE Fab Crew = 6, Newman = 7, Miller = 6, Geary = 4, R&R = 1, Wilding = 1.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time: Manny Luhaun 646

Dispatcher logout, name and time: Al Swinski 1630

DISCREPANCIES:

IMMEDIATE CORRECTIVE ACTION TAKEN:

11/30 - Identified an additional retaining wall that is below grade and does not show on the Demo Plan.	Will excavate to determine dimensions.
12/14 - Communications battery rack extends into the northeast doorway. Capital Electric indicates that they were told to proceed with the install by Barry Andersor	Sent email and pictures to Roger F to confirm that this conflict is acceptable to RMP. Under evaluation by Comm Group
12/15 - Excavated to locate the 46 kV cables exiting the west side of the yard. Dug 8' and didn't find them. Will try again. Actual depth will be much deeper than design of new bank	Sent e-mail to Roger F.

DELAYS OR LOST TIME ENCOUNTERED:

--

EQUIPMENT (working, delivered, idle):

CVE fab crew: Portable toilet (2), forklift, 1 dumpster, office trailer, conex, exclusion zone conex (2), tool trailer, crew truck, boom truck. Newman: portable wash-down structure, trachoe, bobcat, mini-ex, power washer, water truck, compactor (2), backhoe.

OSHA Recordable Safety Incidents:

Reported by:

Time:

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Russ Johnson
Field Construction Representative



January 25, 2012

Laboratory Code: RES
Subcontract Number: NA
Laboratory Report: RES 228373-1
Project # / P.O. #: None Given
Project Description: 3rd West Sub - RMP

Eldon Romney
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 228373-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeanne Spencer Orr", is written over a horizontal line.

Jeanne Spencer Orr
President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number: RES 228373-1
 Client: R & R Environmental
 Client Project Number / P.O.: None Given
 Client Project Description: 3rd West Sub - RMP
 Date Samples Received: January 24, 2012
 Analysis Type: TEM, AHERA
 Turnaround: 24 Hour
 Date Samples Analyzed: January 25, 2012

Client ID Number	Lab ID Number	Area Analyzed (mm ²)	Air Volume Sampled (L)	Number of Asbestos Structures Detected	Analytical Sensitivity (s/cc)	Asbestos Concentration (s/cc)	Filter Loading (s/mm ²)
3W-012312 SW	EM 855232	0.0900	911	ND	0.0047	BAS	BAS
3W-012312 NW	EM 855233	0.0900	911	ND	0.0047	BAS	BAS
3W-012312 NE	EM 855234	0.0900	911	ND	0.0047	BAS	BAS
3W-012312 SE	EM 855235	0.1000	796	ND	0.0048	BAS	BAS

NA = Not Analyzed
 ND = None Detected
 BAS = Below Analytical Sensitivity
 Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester
 Filter Diameter = 25 mm
 Effective Filter Area = 385 sq mm

Digitally signed by
 Elena Eberman
 DN: cn = Elena
 Eberman, c = US,
 o = Reservoirs
 Environmental,
 Inc.,
 Date: 2012.01.25
 10:50:44 -0700

DATA QA

Due Date: 1-25-12
Due Time: 9am

RES 228373

REILAB Reservoirs Environmental, Inc.
6801 Logan St. Denver, CO 80216 • Ph: 303 904-1886 • Fax 303-477-4275 • Toll Free: 866-RES-ENV
Pager: 866-508-2888

Page 1 of 1

INVOICE TO: (IF DIFFERENT)

CONTACT INFORMATION:

Company: <u>R9R Environmental</u>	Company:	Contact: <u>Dave Roskelley</u>	Contact:
Address: <u>47 W 9000 S #2</u>	Address:	Phone:	Phone:
<u>Sandy, UT. 84070</u>		Fax:	Fax:
		Cell/pager: <u>801 541-1035</u>	Cell/pager:
Project Number and/or P.O. #:		Final Date Deliverable:	Final Date Deliverable:
Project Description/Location: <u>3rd West Sub - RMP</u>		Email Address: <u>dave@rrenviro.com</u>	

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm		REQUESTED ANALYSIS										VALID MATRIX CODES				LAB NOTES:						
PLM / PCM / TEM	RUSH (Same Day) <input checked="" type="checkbox"/> PRIORITY (Next Day) <input type="checkbox"/> STANDARD <input type="checkbox"/>	PLM - Short report, Long report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-vac, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analysis	RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - METH	Salmonella: +/-	Listeria: +/-	Aerobic Plate Count +/- or Quantification	E.coli +/- or Quantification	Coliforms: +/- or Quantification	Staphylococcus: +/- or Quantification	Y & M: +/- or Quantification	Mold: +/-, Identification, Quantification	Sample Volume (L) / Area	Matrix Code	# Containers	Date Collected mm/dd/yy	Time Collected hh/mm a/p	EM-Number (Laboratory Use Only)
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm																						
Metals / Dust	RUSH 24 hr. 3-5 Day																					
RCRA 8 / Metals & Welding Fume Scan / TCLP	RUSH 5 day 10 day																					
Organics	24 hr. 3 day 5 Day																					
MICROBIOLOGY LABORATORY HOURS: Weekdays: 8am - 9pm																						
E.coli O157:H7, Coliforms, Staphylococcus	24 hr. 2 Day 3-5 Day																					
Salmonella, Listeria, E.coli, APC, Y & M	48 Hr. 3-5 Day																					
Mold	RUSH 24 Hr 48 Hr 3 Day 5 Day																					
Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.																						
Special Instructions:																						
Client sample ID number: (Sample ID's must be unique)																						
1	3W 012312 SW																911	A		01/23/12		855232
2	3W 012312 NW																911					33
3	3W 012312 NE																911					34
4	3W 012312 SE																796					35
5																						
6																						
7																						
8																						
9																						
10																						

Number of samples received: 4 (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: <u>[Signature]</u> Date/Time: <u>01/23/12</u>	Sample Condition: <u>On Ice</u> Sealed <u>Yes</u> Intact <u>Yes</u>
Laboratory Use Only	Temp. (F°) <u> </u> Yes / No <u> </u> Yes / No <u> </u> Yes / No <u> </u>
Received By: <u>[Signature]</u> Date/Time: <u>12/12/2011</u> Carrier: <u>FedEx</u>	
Results:	
Contact <u>[Signature]</u> Phone Email Fax <u> </u> Date <u>1/25/12</u> Time <u>8:30am</u> Initials <u>[Signature]</u>	Contact <u> </u> Phone Email Fax <u> </u> Date <u> </u> Time <u> </u> Initials <u> </u>
Contact <u> </u> Phone Email Fax <u> </u> Date <u> </u> Time <u> </u> Initials <u> </u>	Contact <u> </u> Phone Email Fax <u> </u> Date <u> </u> Time <u> </u> Initials <u> </u>

Phone 4.7075 7773 7392
7-2011_version 1

Attachment I

Key to Count Sheets
Count Sheets
Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

A = Amosite
An = Anthophyllite
C = Chrysotile
Cr = Crocidolite
T = Tremolite

Structure Types

F = Fiber
B = Bundle
C = Cluster
M = Matrix

ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion

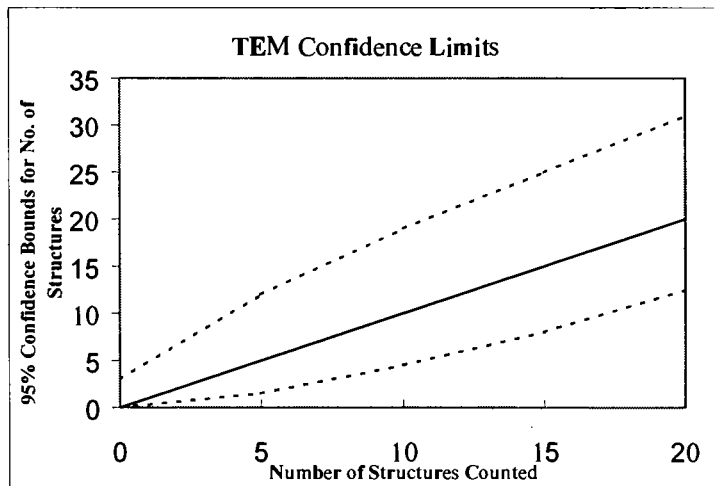
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr
Nathan DelHierro
Angela Heitger
Jonathan Bernard

Paul D. LoScalzo
Mark Steiner
Norberto Zimbleman
Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	REI
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	911
Date received by lab	1/24/12
Lab Job Number:	228373
Lab Sample Number:	855232

Analyzed by	JB
Analysis date	1/25/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting mles (ISO, AHERA, ASTM)	AT
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	G3-4	ND												
	F3-4	ND					Prep A	70% in hnt			3-5% debris			
	E3-4	ND					Prep B	60% in hnt			3-5% debris			
	C3-4	ND												
	E3-3	ND												
B	H3-4	ND												
	G3-4	ND												
	F3-1	ND												
	E3-1	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

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Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client:	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	911
Date received by lab	1/24/12
Lab Job Number:	228373
Lab Sample Number:	855233

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	1/25/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AT
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	E4-3	ND												
	C4-6	ND					Pnp A	60% in front			5% debris			
	B4-6	ND					Pnp B	80% in front			5% debris			
	E5-1	ND												
	C5-4	ND												
B	K4-6	ND												
	H4-6	ND												
	G4-6	ND												
	F4-6	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Npn-asbestos material

T:\QAQC\Lab\TEM\Lab Doc\TEM Count Sheet rev. 1-11.xls

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX <u>N</u> S
Voltage (KV)	100 KV
Magnification	<u>20KX</u> 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	Per
Sample Type (A=Air, O=Dust):	A
Air volume (L) or dust area (cm ²)	911
Date received by lab	1/24/12
Lab Job Number:	228373
Lab Sample Number:	855234

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	1/25/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting miles (ISO, AHERA, ASTM)	Att
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Wkth		Amphibole	C	NAM		Sketch	Photo	EDS
A	G4-1	ND												
	F4-1	ND					Pimp A				5-7% debris			
	E4-1	ND					Pimp B				5-7% debris			
	C4-1	ND												
	B4-1	ND												
B	H3-1	ND												
	G3-1	ND												
	F3-1	ND												
	E3-1	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

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Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX <u>N</u> S
Voltage (KV)	100 KV
Magnification	<u>20KX</u> 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	PER
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	796
Date received by lab	1/24/12
Lab Job Number:	228373
Lab Sample Number:	855235

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	1/25/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AT
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	H4-6	ND												
	G4-6	ND												
	F4-6	ND					Pmp	70% on tent		5-7% debris				
	G5-6	ND					Pmp	90% on tent		5-7% debris				
	F5-6	ND												
B	H5-3	ND												
	G5-3	ND												
	F5-3	ND												
	E5-3	ND												
	C5-3	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

T:\QAQC\Lab\TEM\Lab Docs\TEM Count Sheet rev.1-11.xls

Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

- Fiber:** is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.
- Bundle:** is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.
- Cluster:** is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.
- Matrix:** is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, mm}^2 = \# \text{ GO counted} \times \text{Average GO Area (mm}^2\text{)}$$

$$\text{Concentration, s/cc} = \frac{\# \text{ Asbestos Structures}}{\# \text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff Filter Area (mm}^2\text{)}}{\text{Average GO area (mm}^2\text{)}} \times \frac{1\text{L}}{1000\text{cc}}$$

$$\text{Filter loading, s/mm}^2 = \frac{\# \text{ Asbestos structures}}{\text{Area Analyzed (mm}^2\text{)}}$$

$$\text{GO} = \text{TEM grid opening}$$



Reservoirs Environmental, Inc.

January 26, 2012

Laboratory Code: RES
Subcontract Number: NA
Laboratory Report: RES 228454-1
Project # / P.O. #: None Given
Project Description: 3rd West Sub - RMP

Eldon Romney
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 228454-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr
President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number: RES 228454-1
 Client: R & R Environmental
 Client Project Number / P.O.: None Given
 Client Project Description: 3rd West Sub - RMP
 Date Samples Received: January 25, 2012
 Analysis Type: TEM, AHERA
 Turnaround: 24 Hour
 Date Samples Analyzed: January 26, 2012

Client ID Number	Lab ID Number	Area Analyzed (mm ²)	Air Volume Sampled (L)	Number of Asbestos Structures Detected	Analytical Sensitivity (s/cc)	Asbestos Concentration (s/cc)	Filter Loading (s/mm ²)
3W-012412 SW	EM 855777	0.0800	974	ND	0.0049	BAS	BAS
3W-012412 NW	EM 855778	0.0800	968	ND	0.0050	BAS	BAS
3W-012412 NE	EM 855779	0.0800	966	ND	0.0050	BAS	BAS
3W-012412 SE	EM 855780	0.0800	963	ND	0.0050	BAS	BAS

NA = Not Analyzed
 ND = None Detected
 BAS = Below Analytical Sensitivity
 Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester
 Filter Diameter = 25 mm
 Effective Filter Area = 385 sq mm

Digitally signed
 by Elsha
 Elberman
 DN: CN = Elsha
 Elberman, C =
 US, O =
 Reservoirs
 Environmental,
 Inc.
 Date: 2012.01.26
 14:22:06 -0700

DATA QA

Due Date: 1-20-12
 Due Time: 2:50

REILAB Reservoirs Environmental, Inc.

5801 Logan St. Denver, CO 80218 • P: 303 964-1986 • Fax 303-477-4275 • Toll Free :888 RES-ENV
 Pager : 303-909-2098

Page 1 of 1

INVOICE TO: (IF DIFFERENT)

CONTACT INFORMATION:

Company: <u>REILAB Environmental</u>	Company:	Contact: <u>Dave Roskelley</u>	Contact:
Address: <u>47 W 9000 S</u>	Address:	Phone:	Phone:
<u>Sandy UT. 84070</u>		Fax:	Fax:
		Cell/pager: <u>801 541-1035</u>	Cell/pager:
Project Number and/or P.O. #:		Final Beta Deliverable Email Address: <u>dave@rrenviro.com</u>	
Project Description/Location: <u>3rd West Sub - RMP</u>			

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm		REQUESTED ANALYSIS												VALID MATRIX CODES		LAB NOTES:				
PLM / PCM / TEM	<u> </u> RUSH (Same Day) <input checked="" type="checkbox"/> PRIORITY (Next Day) <u> </u> STANDARD	PLM - Short report, Long report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-vac, ISO-Indirect Props	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analyte(s)	RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - METH	Salmonella: +/-	E.coli O157:H7: +/-	Listeria: +/-	Aerobic Plate Count: +/- or Quantification	E.coli: +/- or Quantification	Coliforms: +/- or Quantification	S.aureus: +/- or Quantification	Y & M: +/- or Quantification	Mold: +/-, Identification, Quantification	Air = A	Bulk = B	
(Rush PCM = 2tir, TEM = 6tir.)																		Dust = D	Paint = P	
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm																		Soil = S	Wipe = W	
Metal(s) / Dust	<u> </u> RUSH <u> </u> 24 hr. <u> </u> 3-5 Day																	Swab = SW	F = Food	
RCRA 8 / Metals & Welding Fume Scan / TCLP	<u> </u> RUSH <u> </u> 5 day <u> </u> 10 day																	Drinking Water = DW	Waste Water = WW	
Organics	<u> </u> 24 hr. <u> </u> 3 day <u> </u> 5 Day													O = Other						
MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm														**ASTM E1792 approval wipo modia only**						
E.coli O157:H7, Coliforms, S.aureus	<u> </u> 24 hr. <u> </u> 2 Day <u> </u> 3-5 Day													Sample Volume (L) / Area	Matrix Code	# Containers	Date Collected mm/dd/yy	Time Collected no/mm a/p	EM Number (Laboratory Use Only)	
Salmonella, Listeria, E.coli, APC, Y & M	<u> </u> 48 Hr. <u> </u> 3-5 Day																			
Mold	<u> </u> RUSH <u> </u> 24 Hr <u> </u> 48 Hr <u> </u> 3 Day <u> </u> 5 Day																			
Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afternoons, weekends and holidays.																				
Special Instructions:																				
Client sample ID number (Sample ID's must be unique)																				
1	3W-012412 SW																			
2	3W-012412 NW																			
3	3W-012412 NE																			
4	3W-012412 SE																			
5																				
6																				
7																				
8																				
9																				
10																				

Number of samples received: 4 (Additional samples shall be listed on attached long form.)

NOTE: REILAB will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: <u>[Signature]</u> Date/Time: <u>01/24/12</u>	Sample Condition: On Ice Sealed Intact
Laboratory Use Only	Temp. (F) <u> </u> Yes / No Yes / No <u>Yes / No</u>
Received By: <u>[Signature]</u> Date/Time: <u>1-25-12</u> Carrier: <u>Truck</u>	
Results: Contact <u>[Signature]</u> Phone Email Fax Date <u>1/26/12</u> Time <u>9:45a</u> Initials <u>[Signature]</u>	Contact Phone Email Fax Date Time Initials
Contact Phone Email Fax Date Time Initials	Contact Phone Email Fax Date Time Initials

Attachment I

Key to Count Sheets
Count Sheets
Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

A = Amosite
An = Anthophyllite
C = Chrysotile
Cr = Crocidolite
T = Tremolite

Structure Types

F = Fiber
B = Bundle
C = Cluster
M = Matrix

ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion

1 length unit = 5 mm on screen = 0.278 micron

1.80 length units = 0.5 micron

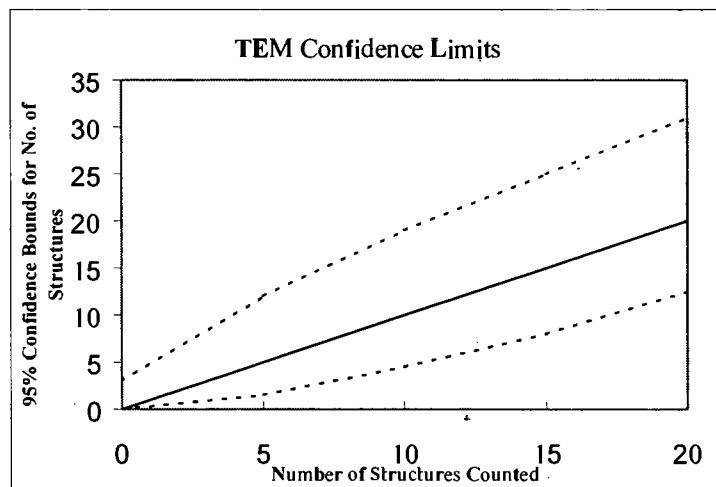
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr
Nathan DelHierro
Angela Heitger
Jonathan Bernard

Paul D. LoScalzo
Mark Steiner
Norberto Zimbleman
Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX <u>N</u> S
Voltage (KV)	100 KV
Magnification	<u>20KX</u> 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	974
Date received by lab	1/25/12
Lab Job Number:	228454
Lab Sample Number:	855777

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	1/26/12
Method (O=Direct, I=Indirect, IA=indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Alt
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	H4-6	ND												
	G4-6	ND												
	F4-6	ND												
	E4-6	ND												
B	G3-6	ND												
	F3-6	ND												
	H4-3	ND												
	G4-3	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

T:\QAQC\Lab\TEM\Lab Docs\TEM Count Sheet rev.1-11.xls

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX / N S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
OA Type	

Client:	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	968
Date received by lab	1/25/12
Lab Job Number:	228454
Lab Sample Number:	855778

Analyzed by	JB
Analysis date	1/26/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AA
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grkl	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	24-1	ND												
	154-1	ND					Prep A	80% indirect			3-5% debris			
	144-1	ND					Prep B	60% indirect			3-5% debris			
	64-1	ND												
B	K3-3	ND									1/26/12			
	H3-3	ND												
	G3-3	ND												
	G2-3	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	966
Date received by lab	1/25/12
Lab Job Number:	228454
Lab Sample Number:	855779

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	1/26/12
Method (D=Direct, I=Indirect, IA=Indirect ashed)	D
Counting rules (OSO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EOS
A	K3-6	ND												
	H3-6	ND					Pump A	80% intact			5% debris			
	G3-6	ND					Pump B	50% intact			5% debris			
	F3-6	ND												
B	G2-6	ND												
	F2-6	ND												
	G1-6	ND												
	F1-6	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	963
Date received by lab	1/25/12
Lab Job Number:	228454
Lab Sample Number:	855780

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	1/26/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	K4-1	ND												
	H4-1	ND					Pipe A	80% Libby			3-5% debris			
	G4-1	ND					Pipe B	90% Libby			3-5% debris			
	F4-1	ND												
B	H3-6	ND												
	G3-6	ND												
	F3-6	ND												
	E3-6	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

T:\QAQC\Lab\ITEM\Lab Doc\ITEM Count Sheet rev. 1-11.xls

Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber:	is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.
Bundle:	is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.
Cluster:	is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.
Matrix:	is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, mm}^2 = \# \text{ GO counted} \times \text{Average GO Area (mm)}$$

$$\text{Concentration, s/cc} = \frac{\# \text{ Asbestos Structures}}{\# \text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2\text{)}}{\text{Average GO area (mm}^2\text{)}} \times \frac{1\text{L}}{1000\text{cc}}$$

$$\text{Filter loading, s/mm}^2 = \frac{\# \text{ Asbestos structures}}{\text{Area Analyzed (mm}^2\text{)}}$$

GO = TEM grid opening



January 27, 2012

Laboratory Code: RES
Subcontract Number: NA
Laboratory Report: RES 228518-1
Project # / P.O. #: None Given
Project Description: 3rd West Sub - RMP

Eldon Romney
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 228518-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeanne Orr", is written over a horizontal line.

Jeanne Spencer Orr
President

P: 303-964-1986
F: 303-477-4275

5301 Logan Street Suite 100 Denver, CO 80216

1-866-RESI-ENV
www.reilab.com

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE 1. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number: RES 228518-1
 Client: R & R Environmental
 Client Project Number / P.O.: None Given
 Client Project Description: 3rd West Sub - RMP
 Date Samples Received: January 26, 2012
 Analysis Type: TEM, AHERA
 Turnaround: 24 Hour
 Date Samples Analyzed: January 27, 2012

Client ID Number	Lab ID Number	Area Analyzed (mm ²)	Air Volume Sampled (L)	Number of Asbestos Structures Detected	Analytical Sensitivity (s/cc)	Asbestos Concentration (s/cc)	Filter Loading (s/mm ²)
3W-012512 SW	EM 856104	0.0900	907	ND	0.0047	BAS	BAS
3W-012512 NW	EM 856105	0.0900	907	ND	0.0047	BAS	BAS
3W-012512 NE	EM 856106	0.0900	907	ND	0.0047	BAS	BAS
3W-012512 SE	EM 856107	0.0900	907	ND	0.0047	BAS	BAS

NA = Not Analyzed
 ND = None Detected
 BAS = Below Analytical Sensitivity
 Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester
 Filter Diameter = 25 mm
 Effective Filter Area = 385 sq mm

gfv
 Digitally signed
 by G. V.
 DN: cn=G. V.,
 email=gfv@reservoirsenv.com,
 c=US

DATA QA

Due Date: 1-27-12
Due Time: 835

REILAB **Reservoirs Environmental, Inc.**
5801 Logan St. Denver, CO 80216 • Ph: 303-964-1888 • Fax 303-477-4276 • Toll Free: 866-RES-ENV
Pager: 883-809-2088

INVOICE TO: (IF DIFFERENT)

CONTACT INFORMATION:

Company: <u>REIL Environmental</u>	Company:	Contact: <u>Dave Roskelley</u>	Contact:
Address: <u>47 W 9000 S</u>	Address:	Phone:	Phone:
		Fax:	Fax:
		Cell/pager: <u>801 541-1035</u>	Cell/pager:
Project Number and/or P.O. #:		Final Date Deliverable Email Address:	
Project Description/Location: <u>3rd West Sub - RMP</u>			

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm		REQUESTED ANALYSIS												VALID MATRIX CODES				LAB NOTES:
PLM / PCM / TEM	<u>RUSH</u> (Same Day) <u>X</u> PRIORITY (Next Day) <u>STANDARD</u> (Rush PCM = 2hr, TEM = 6hr.)	PLM - Short report, Long report, Point Count TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-vac, (ISO-Indirect Preps) PCM - 7400A, 7400B, OSHA DUST - Total, Respirable METALS - Analyte(s) RCRA 8, TCLP, Welding Fume, Metals Scan ORGANICS - METH Salmonella: +/- E.coli O157:H7: +/- Listeria: +/- Aerobic Plate Count: +/- or Quantification E.coli: +/- or Quantification Coliforms: +/- or Quantification S.aureus: +/- or Quantification Y & M: +/- or Quantification Mold: +/-, Identification, Quantification SAMPLER'S INITIALS OR OTHER NOTES	Air = A		Bulk = B		LAB NOTES:											
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm			Dust = O		Paint = P													
Metal(s) / Dust <u>RUSH</u> 24 hr. 3-5 Day			Soil = S		Wipe = W													
RCRA 8 / Metals & Welding <u>RUSH</u> 5 day 10 day			Swab = SW		F = Food													
Fume Scan / TCLP <u>RUSH</u> 5 day 10 day			Drinking Water = DW		Waste Water = WW													
Organics <u>24 hr.</u> 3 day 5 Day		O = Other																
MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm																		
E.coli O157:H7, Coliforms, S.aureus <u>24 hr.</u> 2 Day 3-5 Day																		
Salmonella, Listeria, E.coli, APC, Y & M <u>48 Hr.</u> 3-5 Day																		
Mold <u>RUSH</u> 24 Hr 48 Hr 5 Day 5 Day																		
Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.																		
Special Instructions:																		
Client sample ID number (Sample ID's must be unique)																		
1	3W-012512 SW	X					907	A	01/25/12		856184							
2	3W-012512 NW						907				95							
3	3W-012512 NE						907				96							
4	3W-012512 SE						907				97							
5																		
6																		
7																		
8																		
9																		
10																		

Number of samples received: 4 (Additional samples shall be listed on attached long form.)
NOTE: REIL will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: <u>[Signature]</u>	Date/Time: <u>01/25/12</u>	Sample Condition:	On Ice	Sealed	Intact		
Laboratory Use Only		Temp. (F°)	Yes / No	Yes / No	Yes / No		
Received By: <u>[Signature]</u>	Date/Time: <u>1/26/12</u>	Carrier: <u>FedEx</u>					
Results:	Contact	Phone	Email	Fax	Date	Time	Initials
	Contact	Phone	Email	Fax	Date	Time	Initials

Analysis # 7501 8495632

Attachment I

Key to Count Sheets
Count Sheets
Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

A = Amosite
An = Anthophyllite
C = Chrysotile
Cr = Crocidolite
T = Tremolite

Structure Types

F = Fiber
B = Bundle
C = Cluster
M = Matrix

ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion

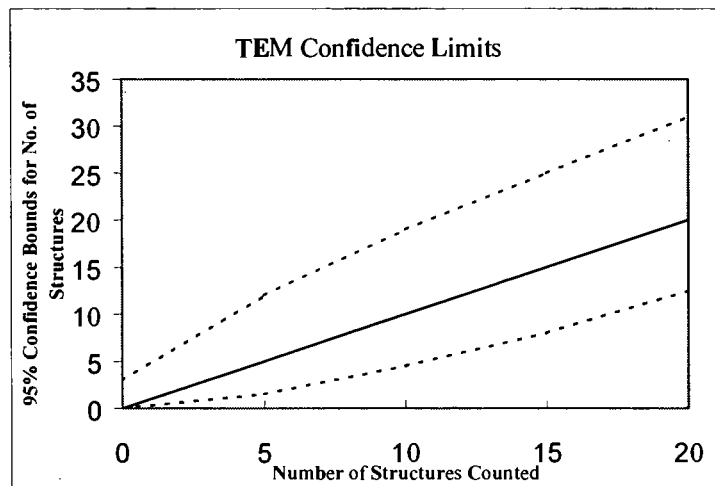
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr
Nathan DelHierro
Angela Heitger
Jonathan Bernard

Paul D. LoScalzo
Mark Steiner
Norberto Zimbleman
Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX/NB
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.096 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	907
Date received by lab	1/26/12
Lab Job Number:	228518
Lab Sample Number:	856104

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	1/27/12
Method (O=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AT
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EOS
A	K4-1	ND												
	H4-1	ND					Prep A	80% amphibole			3-5% debris			
	G4-1	ND					Prep B	70% amphibole			3-5% debris			
	C4-1	ND												
	B4-1	ND												
B	G2-1	ND												
	F2-1	ND												
	E2-1	ND												
	C2-1	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX/N S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
OA Type	

Client:	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	907
Date received by lab	1/26/12
Lab Job Number:	228518
Lab Sample Number:	856105

Analyzed by	JB
Analysis date	1/27/12
Method (D=Direct, t=Indirect, tA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	L4-1	ND												
	K4-1	ND					Prep A 80% in bucket				3-5% debris			
	H4-1	ND					Prep B 70% in bucket				3-5% debris			
	G4-1	ND												
	F4-1	ND												
B	H4-4	ND												
	G4-4	ND												
	F4-4	ND												
	E4-4	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

T:\QAQC\LIBTEM\AHERA\TEM\Count\

Reservoirs Environmental, Inc.
TEI Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX/N 5
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	907
Date received by lab	1/26/12
Lab Job Number	228518
Lab Sample Number:	856106

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	1/27/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AT
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	L4-3	ND												
	H4-3	ND					Prep A	70% in hnt		3-5% debris				
	H4-3	ND					Prep B	80% in hnt		3-5% debris				
	G4-3	ND												
	F4-3	ND												
B	F3-6	ND												
	E3-6	ND												
	C3-6	ND												
	B3-6	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

T:\QAQC\Lab\TEI\Asbestos\Structure Count\...

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX/N B
Voltage (KV)	100 KV
Magnification	2010X 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	907
Date received by lab	1/26/12
Lab Job Number	228518
Lab Sample Number:	856106

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (m ³)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	1/27/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AT
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Wk/lt		Amphibole	C	NAM		Sketch	Photo	EDS
A	L4-3	ND												
	H4-3	ND					Prep A	70% in hnt			3-5% debris			
	H4-3	ND					Prep B	80% in hnt			35% debris			
	G4-3	ND												
	F4-3	ND												
B	F3-6	ND												
	E3-6	ND												
	C3-6	ND												
	B3-6	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

T:\QAQC\Lab\TEM\sh\DW\TEM Count 01-27-12

Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber:	is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.
Bundle:	is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.
Cluster:	is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.
Matrix:	is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, mm}^2 = \# \text{ GO counted} \times \text{Average GO Area (mm)}$$

$$\text{Concentration, s/cc} = \frac{\# \text{ Asbestos Structures}}{\# \text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2\text{)}}{\text{Average GO area (mm}^2\text{)}} \times \frac{\text{IL}}{1000\text{cc}}$$

$$\text{Filter loading, s/mm}^2 = \frac{\# \text{ Asbestos structures}}{\text{Area Analyzed (mm}^2\text{)}}$$

GO = TEM grid opening



January 30, 2012

Laboratory Code: RES
Subcontract Number: NA
Laboratory Report: RES 228612-1
Project # / P.O. #: None Given
Project Description: 3rd West Sub - RMP

Eldon Romney
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 228612-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeanne Spencer Orr", is written over a horizontal line.

Jeanne Spencer Orr
President

P: 303-964-1986
F: 303-477-4275

5801 Logan Street, Suite 100 Denver, CO 80216

1-866-RESI-ENV
www.reilab.com

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number: RES 228612-1
 Client: R & R Environmental
 Client Project Number / P.O.: None Given
 Client Project Description: 3rd West Sub - RMP
 Date Samples Received: January 27, 2012
 Analysis Type: TEM, AHERA
 Turnaround: 24 Hour
 Date Samples Analyzed: January 28, 2012

Client ID Number	Lab ID Number	Area Analyzed (mm ²)	Air Volume Sampled (L)	Number of Asbestos Structures Detected	Analytical Sensitivity (s/cc)	Asbestos Concentration (s/cc)	Filter Loading (s/mm ²)
3W-012612 SW	EM 856811	0.1000	511	1	0.0075	0.0075	10.0
3W-012612 NW	EM 856812	0.1000	529	ND	0.0073	BAS	BAS
3W-012612 NE	EM 856813	0.1000	527	1	0.0073	0.0073	10.0
3W-012612 SE	EM 856814	0.1000	500	ND	0.0077	BAS	BAS

NA = Not Analyzed
 ND = None Detected
 BAS = Below Analytical Sensitivity
 Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester
 Filter Diameter = 25 mm
 Effective Filter Area = 385 sq mm

EE
 Digitally signed by
 Elisha Eberman
 DN: CN = Elisha
 Eberman, C = US,
 O = Reservoirs
 Environmental, Inc.
 Date: 2012.01.30
 11:21:48 -0700

DATA QA

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE II. SUMMARY OF ANALYTICAL DATA

RES Job Number: RES 228612-1
 Client: R & R Environmental
 Client Project Number / P.O.: None Given
 Client Project Description: 3rd West Sub - RMP
 Date Samples Received: January 27, 2012
 Analysis Type: TEM, AHERA
 Turnaround: 24 Hour
 Date Samples Analyzed: January 28, 2012

Client ID Number	Lab ID Number	Asbestos Mineral	Asbestos Structure Types*				Structures >5 Microns in Length	**Excluded Structures	Asbestos Structures for Concentration
			Fibers	Bundles	Clusters	Matrices			
3W-012612 SW	EM 856811	Chrysotile	1	0	0	0	0	0	1
3W-012612 NW	EM 856812	ND	0	0	0	0	0	0	0
3W-012612 NE	EM 856813	Chrysotile	1	0	0	0	0	0	1
3W-012612 SE	EM 856814	ND	0	0	0	0	0	0	0

*See Analytical Procedure for definitions

**C = Excluded from total due to lack of confirmation

**L = Excluded from total for length less than 0.5 micron (AHERA only)

**A = Excluded from total due to incorrect aspect ratio

ND = None Detected

Due Date: 1-28-12
 Due Time: 854a



Reservoirs Environmental, Inc.

5801 Logan St. Denver, CO 80216 • Ph: 303 963-1166 • Fax 303-477-4276 • Toll Free: 888-RES-ENV

Pager: 303-609-2098

Page 1 of 1

INVOICE TO: (IF DIFFERENT)

CONTACT INFORMATION:

Company: <u>R&E Environmental</u>	Company:	Contact: <u>Dave Roskelley</u>	Contact:
Address: <u>47W 9000 S #2</u>	Address:	Phone:	Phone:
<u>Sandy UT. 84070</u>		Fax:	Fax:
		Cell/pager: <u>801 541-1035</u>	Cell/pager:
Project Number and/or P.O. #:		Final Data Deliverable Email Address:	
Project Description/Location: <u>3rd West Sub - RMD</u>		<u>dave@reenviro.com</u>	

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm		REQUESTED ANALYSIS										VALID MATRIX CODES				LAB NOTES:							
PLM / PCM / TEM <u>TEM</u> <u>RUSH</u> (Same Day) <u>PRIORITY</u> (Next Day) <u>STANDARD</u> (Rush PCM = 2hr, TEM = 6hr.)		PLM - Short report, Long report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-vac, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analyte(s)	RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - METH	Salmonella: +/-	E. coli O157:H7: +/-	Listeria: +/-	Aerobic Plate Count: +/- or Quantification	E. coli: +/- or Quantification	Coliforms: +/- or Quantification	S. aureus: +/- or Quantification	Y & M: +/- or Quantification	Mold: +/-, Identification, Quantification	SAMPLER'S INITIALS OR OTHER NOTES	Air = A	Bulk = B			
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm																			Dust = D	Paint = P			
Metal(s) / Dust <u>RUSH</u> 24 hr. 3-5 Day																			Soil = S	Wipe = W			
RCRA 8 / Metals & Welding Fume Scan / TCLP <u>RUSH</u> 5 day 10 day																			Swab = SW	F = Food			
Organics <u>24 hr. 3 day 5 Day</u>																			Drinking Water = DW	Waste Water = WW			
MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm																		O = Other					
E. coli O157:H7, Coliforms, S. aureus <u>24 hr. 2 Day 3-5 Day</u>																		**ASTM E1792 approved wipe media only**					
Salmonella, Listeria, E. coli, APC, Y & M <u>48 Hr. 3-5 Day</u>																		Sample Volume (L) / Area	Matrix Code	# Containers	Date Collected mm/dd/yy	Time Collected hh:mm a/p	EM Number (Laboratory Use Only)
Mold <u>RUSH 24 Hr 48 Hr 3 Day 5 Day</u>																							
Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.																							
Special Instructions:																							
Client sample ID number (Sample ID's must be unique)																							
1	3W-012612 SW																	5M	A	1/26/12		856811	
2	3W-012612 MW																	529				12	
3	3W-012612 NF																	527				13	
4	3W-012612 SE																	500				14	
5																							
6																							
7																							
8																							
9																							
10																							

Number of samples received: 4 (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: <u>Justin Kagan</u>	Fed Ex	Date/Time: <u>1/26/12</u>	Sample Condition:	On Ice	Sealed	Intact
Laboratory Use Only			Temp. (F°)	Yes / No	Yes / No	Yes / No
Received By: <u>[Signature]</u>	Date/Time: <u>1/27/12 0854a</u>	Carrier: <u>FedEx</u>				
Results:	Contact <u>[Signature]</u>	Phone Email Fax	Date <u>1/28/12</u>	Time <u>11a</u>	Initials <u>[Signature]</u>	
	Contact	Phone Email Fax	Date	Time	Initials	

Thank you: 7931 5249 7172
 7-2011_version 1

Attachment I

Key to Count Sheets
Count Sheets
Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

A = Amosite
An = Anthophyllite
C = Chrysotile
Cr = Crocidolite
T = Tremolite

Structure Types

F = Fiber
B = Bundle
C = Cluster
M = Matrix

ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion

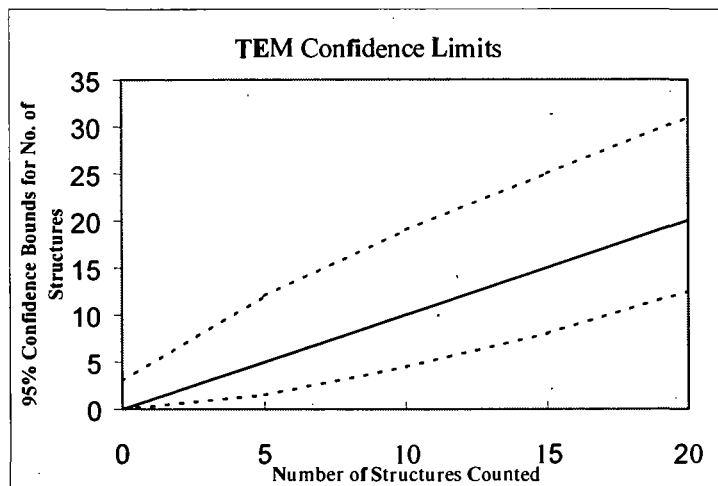
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr
Nathan DelHierro
Angela Heitger
Jonathan Bernard

Paul D. LoScalzo
Mark Steiner
Norberto Zimbleman
Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 11. =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	511
Date received by lab	1/27/12
Lab Job Number	228612
Lab Sample Number	856811

Analyzed by	MK
Analysis date	1/27/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	ALL
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EOS
A	E4-1	ND												
	E4-1	F		1	2	1	CP		-		-			
	E4-1	ND												
	CH-1	ND					Prep A 90% intact - 52 debris							
	B4-1	ND					Prep B 60% intact - 52 debris - 1/27/12							
B	K5-3	ND												
	H5-3	ND												
	H4-1	ND												
	G4-1	ND												
	F4-3	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client :	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	529
Date received by lab	1/27/12
Lab Job Number:	228612
Lab Sample Number:	856812

Analyzed by	ML
Analysis date	1/27/12
Method (D=Direct, I=Indirect, IA=Indirect ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (m ³)	
Volume Applied to secondary filter (m ³)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	H4-3	ND												
	G4-3	ND					Pror A 90% mineral 37. Labors							
	F4-3	ND					Grid B 60% mineral 51. Labors							
	E4-3	ND									for for 1/27/12			
	C4-3	ND												
B	G4-4	ND												
	F4-4	ND												
	E4-4	ND												
	L4-3	ND												
	K4-3	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

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Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client :	RTR
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	527
Date received by lab	1/27/12
Lab Job Number:	228612
Lab Sample Number	856813

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	ML
Analysis date	1/27/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EOS
A	H3-4	ND												
	G3-4	ND												
	F3-4	F		1	2	1	WD							
	E3-4	ND					Prep A 90% indirect - 57. Labors							
	C3-4	ND					Prep B ~ A							
B	G3-1	ND												
	F3-1	ND												
	E3-1	ND												
	F4-6	WD												
	E4-6	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

T:\QAQC\Lab\TEM\Lab Docs\TEM Count Sheet rev. 1-11.xls

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX H (S)
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Tvoe	

Client:	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	500
Date received by lab	1/27/12
Lab Job Number:	228612
Lab Sample Number:	856814

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	ML
Analysis date	1/27/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	LS-1	ND												
	KS-1	ND					Prep A 90L intact - 5% debris							
	HS-1	ND					Prep B - 1A				1/28/12			
	GS-1	ND												
	FS-1	ND												
B	HS-3	ND												
	GS-3	ND												
	FS-3	ND												
	GS-3	ND												
	GS-4	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber:	is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.
Bundle:	is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.
Cluster:	is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.
Matrix:	is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, mm}^2 = \# \text{ GO counted} \times \text{Average GO Area (mm)}$$

$$\text{Concentration, s/cc} = \frac{\# \text{ Asbestos Structures}}{\# \text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2\text{)}}{\text{Average GO area (mm}^2\text{)}} \times \frac{\text{IL}}{1000\text{cc}}$$

$$\text{Filter loading, s/mm}^2 = \frac{\# \text{ Asbestos structures}}{\text{Area Analyzed (mm}^2\text{)}}$$

GO = TEM grid opening

REILAB ***Reservoirs Environmental, Inc.***

January 31, 2012

Laboratory Code: RES
Subcontract Number: NA
Laboratory Report: RES 228714-1
Project # / P.O. #: None Given
Project Description: 3rd West Sub - RMP

Eldon Romney
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

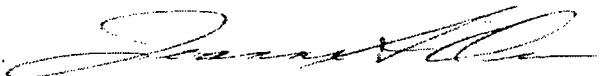
Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 228714-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,



Jeanne Spencer Orr
President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number: RES 228714-1
 Client: R & R Environmental
 Client Project Number / P.O.: None Given
 Client Project Description: 3rd West Sub - RMP
 Date Samples Received: January 30, 2012
 Analysis Type: TEM, AHERA
 Turnaround: 24 Hour
 Date Samples Analyzed: January 31, 2012

Client ID Number	Lab ID Number	Area Analyzed	Air Volume Sampled	Number of Asbestos Structures Detected	Analytical Sensitivity	Asbestos Concentration	Filter Loading
		(mm ²)	(L)		(s/cc)	(s/cc)	(s/mm ²)
3W-012712 SW	EM 857443	0.0900	900	4	0.0048	0.0190	44.4
3W-012712 NW	EM 857444	0.0900	898	ND	0.0048	BAS	BAS
3W-012712 NE	EM 857445	0.0900	898	ND	0.0048	BAS	BAS
3W-012712 SE	EM 857446	0.0900	896	ND	0.0048	BAS	BAS

NA = Not Analyzed
 ND = None Detected
 BAS = Below Analytical Sensitivity
 Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester
 Filter Diameter = 25 mm
 Effective Filter Area = 385 sq mm

gfr
 Analytical
 Date
 01/31/12
 12:41:11 AM

DATA QA

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE II. SUMMARY OF ANALYTICAL DATA

RES Job Number: RES 228714-1
 Client: R & R Environmental
 Client Project Number / P.O.: None Given
 Client Project Description: 3rd West Sub - RMP
 Date Samples Received: January 30, 2012
 Analysis Type: TEM, AHERA
 Turnaround: 24 Hour
 Date Samples Analyzed: January 31, 2012

Client ID Number	Lab ID Number	Asbestos Mineral	Asbestos Structure Types*				Structures >5 Microns in Length	**Excluded Structures	Asbestos Structures for Concentration
			Fibers	Bundles	Clusters	Matrices			
3W-012712 SW	EM 857443	Chrysotile	2	0	2	0	0	0	4
3W-012712 NW	EM 857444	ND	0	0	0	0	0	0	0
3W-012712 NE	EM 857445	ND	0	0	0	0	0	0	0
3W-012712 SE	EM 857446	ND	0	0	0	0	0	0	0

*See Analytical Procedure for definitions

**C = Excluded from total due to lack of confirmation

**L = Excluded from total for length less than 0.5 micron (AHERA only)

**A = Excluded from total due to incorrect aspect ratio

ND = None Detected

Due Date: 1-31-12
Due Time: 9:45a

REILAI'S Reservoirs Environmental, Inc.

5801 Logan St. Denver, CO 80218 • Pch 303 984-1986 • Fax 303 477-4275 • Toll Free: 800 RES-ENV

Pager: 303-509-2098

Page 1 of 1

INVOICE TO: (IF DIFFERENT)

CONTACT INFORMATION:

Company: <u>RER Environmental</u>	Company:	Contact: <u>Dave Kerkley</u>	Contact:
Address: <u>47 W 9000 S #2</u>	Address:	Phone:	Phone:
<u>Sandy, UT. 84070</u>		Fax:	Fax:
		Cell/pager: <u>801 541-0335</u>	Cell/pager:
Project Number and/or P.O. #:		Final Data Deliverable Email Address:	
Project Description/Location: <u>3rd West Sub - RMP</u>		<u>dave@reenviro.com</u>	

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm		REQUESTED ANALYSIS										VALID MATRIX CODES		LAB NOTES:										
PLM / PCM / TEM	<u>RUSH</u> (Same Day) <u>PRIORITY</u> (Next Day) <u>STANDARD</u>	PLM - Short report, Long report, Point Count	TEM - AMER, Level II, 7402, ISO, +/- Quant, Semi-quant, Micro-vac, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analysis	RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - METH	Salmonella: +/-	E.coli O157:H7: +/-	Listeria: +/-	Aerobic Plate Count: +/- or Quantification	E.coli +/- or Quantification	Coliforms: +/- or Quantification	S.aureus: +/- or Quantification	Y & M: +/- or Quantification	Mold: +/- Identification, Quantification	SAMPLES INITIALS OR OTHER NOTES	Air = A	Bulk = B	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <u>13112</u> </div>			
(Rush PCM = 2hr, TEM = 6hr.)																			Dust = D	Paint = P				
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm																			Soil = S	Wipe = W				
Metal(s) / Dust																			Swab = SW	F = Food				
RCRA 8 / Metals & Welding	<u>RUSH</u> 5 day 10 day	**Prior notification is required for RUSH turnarounds.**																	Drinking Water = DW	Waste Water = WW				
Fume Scan / TCLP	<u>RUSH</u> 24 hr. 3-5 Day																		O = Other					
Organics	<u>RUSH</u> 24 hr. 3 day 5 Day																		**ASTM E1792 approved wipe media only**					
MICROBIOLOGY LABORATORY HOURS: Weekdays: 8am - 6pm																			Sample Volume (L) / Area	Matrix Code	# Containers	Date Collected mm/dd/yy	Time Collected hh/mm a/p	EM Number (Laboratory Use Only)
E.coli O157:H7, Coliforms, S.aureus	<u>RUSH</u> 24 hr. 2 Day 3-5 Day																		900 A			01/27/12		857443
Salmonella, Listeria, E.coli, APC, Y & M	<u>RUSH</u> 48 Hr. 3-5 Day																		898					41
Mold	<u>RUSH</u> 24 Hr 48 Hr 3 Day 5 Day																		898					45
Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.																			896					46
Special Instructions:																								
Client sample ID number (Sample ID's must be unique)																								
1	3W-012712 SW																							
2	3W-012712 NW																							
3	3W-012712 NE																							
4	3W-012712 SE																							
5																								
6																								
7																								
8																								
9																								
10																								

Number of samples received: 4 (Additional samples shall be listed on attached long form.)
NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: <u>[Signature]</u>	Date/Time: <u>1/27/12</u>	Sample Condition: On Ice Sealed Intact
Laboratory Use Only		Temp. (F) Yes / No Yes / No <u>Yes</u> / No
Received By: <u>[Signature]</u>	Date/Time: <u>1/31/12</u>	
Results:	Carrier: <u>Toolbox</u>	
Contact: <u>Dave</u> Phone Email Fax	Date: <u>1/31/12</u> Time: <u>10:40a</u> Initials: <u>[Signature]</u>	Contact: Phone Email Fax
Contact: Phone Email Fax	Date: Time: Initials:	Contact: Phone Email Fax

[Signature] 7001 6223 2680
7-2011_version 1

Attachment I

Key to Count Sheets
Count Sheets
Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

A = Amosite
An = Anthophyllite
C = Chrysotile
Cr = Crocidolite
T = Tremolite

Structure Types

F = Fiber
B = Bundle
C = Cluster
M = Matrix

ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion

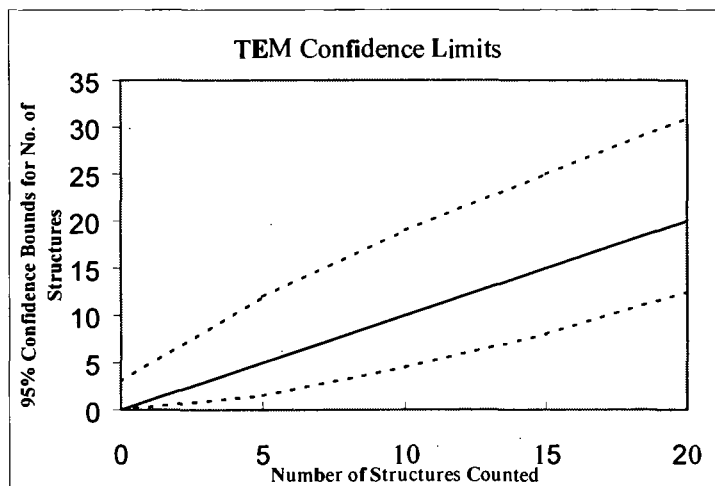
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr
Nathan DelHiero
Angela Heitger
Jonathan Bernard

Paul D. LoScalzo
Mark Steiner
Norberto Zimbleman
Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX <u>N</u> S
Voltage (KV)	100 KV
Magnification	<u>20KX</u> 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.25 um
Scale: 1D =	0.050 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	900
Date received by lab	1/30/12
Lab Job Number:	228714
Lab Sample Number:	857443

Analyzed by	JB
Analysis date	1/31/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AI
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	H2-1	ND												
	G2-1	F		1	5	1	CD		✓		—			
	F2-1	ND												
	E2-6	ND					Prep A 50% indirect			3-5% debris				
	F2-6	ND					Prep B 90% indirect			3-5% debris				
B	H4-1	C		2	4	2	CD		✓		⊗			
		C		3	3	1	CD		✓		⊗			
		F		4	2	1	CD		✓		1			
	H4-1	ND												
	G4-1	ND												

IA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

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Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.058 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	898
Date received by lab	1/30/12
Lab Job Number:	228714
Lab Sample Number	857444

Analyzed by	JB
Analysis date	1/31/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AA
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	H4-4	ND												
	G4-4	ND					Pimp A	80% ambient		3-5% debris				
	F4-4	ND					Pimp B	90% ambient		3-5% debris				
	E4-4	ND												
	L4-4	ND												
	B4-4	ND												
B	G4-4	ND												
	F4-4	ND												
	E4-4	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

T:\QAQC\Lab\ITEM\Lab Docs\ITEM Count Sheet rev.1-11.xls

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX <i>N</i> S
Voltage (KV)	100 KV
Magnification	<i>2010X</i> 1010X
Grid opening area (mm ²)	0.01
Scale: 1L =	0.25 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	<i>R&R</i>
Sample Type (A=Air, D=Dust):	<i>A</i>
Air volume (L) or dust area (cm ²)	<i>898</i>
Date received by lab	<i>1/30/12</i>
Lab Job Number:	<i>228714</i>
Lab Sample Number:	<i>857445</i>

Analyzed by	<i>JB</i>
Analysis date	<i>1/31/12</i>
Method (D=Direct, I=indirect, IA=indirect, ashed)	<i>D</i>
Counting rules (ISO, AHERA, ASTM)	<i>AH</i>
Grid storage location	Month Analyzed
Scoops Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fracture or primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
<i>A</i>	<i>K5-4</i>	<i>ND</i>												
	<i>H5-4</i>	<i>ND</i>					<i>Pap A 60% in heat</i>				<i>5% debris</i>			
	<i>G5-4</i>	<i>ND</i>					<i>Pap B 90% in heat</i>				<i>5% debris</i>			
	<i>G3-3</i>	<i>ND</i>												
	<i>F3-3</i>	<i>ND</i>												
<i>B</i>	<i>H3-1</i>	<i>ND</i>												
	<i>G3-1</i>	<i>ND</i>												
	<i>F3-1</i>	<i>ND</i>												
	<i>E3-1</i>	<i>ND</i>												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

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Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	<u>20KX</u> 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 μ m
Scale: 1D =	0.050 μ m
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Tyoe	

Client:	R+R
Sample Tyoe (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	896
Date received by lab	1/30/12
Lab Job Number:	228714
Lab Sample Number:	857446

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	1/31/12
Method (D=Direct, I=indirect, IA=indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	G3-3	ND												
	F3-3	ND					Pmp A 90% intact 3-5% debris							
	E3-3	ND					Pmp B 70% intact 3-5% debris							
	E3-3	ND												
	B3-3	ND												
B	K3-4	ND												
	H3-4	ND												
	G3-4	ND												
	F3-1	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

T:\QAQC\Lab\TEM\Lab Docs\TEM Count Sheet rev.1-11.xls

Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber:	is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.
Bundle:	is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.
Cluster:	is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.
Matrix:	is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, mm}^2 = \# \text{ GO counted} \times \text{Average GO Area (mm}^2\text{)}$$

$$\text{Concentration, s/cc} = \frac{\# \text{ Asbestos Structures}}{\# \text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2\text{)}}{\text{Average GO area (mm}^2\text{)}} \times \frac{1\text{L}}{1000\text{cc}}$$

$$\text{Filter loading, s/mm}^2 = \frac{\# \text{ Asbestos structures}}{\text{Area Analyzed (mm}^2\text{)}}$$

GO = TEM grid opening